# Palos Verdes Shelf Superfund Site Chronology

| Date | Event |
|---|---|
| 1947 - 1982 | Montrose operates a DDT-manufacturing plant on Normandie Avenue near Torrance, California. |
| 1953 - 1971 | **Montrose discharges DDT-contaminated wastes from its Torrance plant to sanitary sewers operated by the Sanitation Districts. The sewers flow to the Joint Water Pollution Control Plant (JWPCP) at Carson. From JWPCP, effluent containing DDTs and other industrial pollutants is released to the environment though ocean outfalls off White Point on the Palos Verdes Peninsula.** |
| October 1989 | **EPA adds Montrose's Normandie Avenue facility to the National Priorities List.** |
| 1995 | **EPA begins evaluating PV Shelf site** |
| July 1996 | **EPA initiates Non-Time-Critical Removal Action to evaluate risks posed by DDT and PCB effluent-affected sediment at PV Shelf and the feasibility of response actions that could reduce threats to human health and the environment.** |
| 1999 | **EPA issues human health risk assessment and concludes that consumption of fish caught from PV Shelf poses a health risk due to high levels of chemicals of concern, i.e., DDTs and PCBs. EPA estimates excess cancer risks impacting 1 in 500 fishermen ($2 \times 10^{-3}$ risk)** |
| March 2000 | **EPA issues the Engineering Evaluation/Cost Analysis for PV Shelf, identifying institutional controls as the preferred alternative.** |
| September 2000 | **EPA conducts pilot study to assess the feasibility of using capping as a remedial alternative.** |
| September 2001 | **EPA issues and implements the Action Memorandum that initiates implementation of the institutional controls program (Public Outreach/Education, Enforcement, Monitoring).** |
| 2004 | EPA conducts data gap studies including geotechnical study, large bioturbator study, resuspension study, and oceanographic study. |
| October 2007 | EPA issues the final remedial investigation report for PV Shelf. |
| May 2009 | EPA issues the final feasibility study report. |
| 2007-2013 | EPA conducts pre-design studies including 2009 sediment sampling program and fish movement study. |
| September 2009 | **EPA signs Interim ROD which improves ICs, formalizes Monitored Natural Recovery (MNR) as a remedial component, and selects a sediment cap to cover highest contaminated areas. The remedy is "interim" so EPA can evaluate if additional actions are necessary to reach cleanup levels.** |
| 2009 | EPA continues to implement and strengthen the existing Public Education/Outreach and Enforcement Programs with stakeholder support (Fish Contamination and Education Collaborative). |
| 2009 | **EPA continues to plan and conduct technical studies (listed below) with the support and concurrence of the Palos Verdes Shelf Technical Information Exchange Group ("PVSTIEG", which includes NOAA, USFWS, USGS, state and local experts, academia)** |
| 2011 | EPA conducts sediment flux study including at pilot capping site |
| 2013 | **EPA issues the Revised Final Data Report for the Fall 2009 Sediment Sampling Program, prompting discussion about suspending design and implementation of cap remedy. With the support of the PVSTIEG, EPA suspends the hotspot capping component of the remedy.** |
| 2013 | EPA issues the results of the fish tracking study |
| 2014 | **EPA issues the First Five Year Review Report - latest studies and the commercial fishing and market restaurant inspections indicate that risks to subsistence anglers from eating DDTs and PCBs contaminated white croakers harvested from the PV Shelf area have decreased and contaminated white croakers from the PV Shelf area are not being sold at restaurant and retail markets.** |
| 2014 | EPA issues the Palos Verdes Shelf Seafood Consumption Study |

| Date | Event |
|---|---|
| 2016 | EPA issues the Risk Evaluation of Fish Monitoring Results and Lobster Data – Palos Verdes Technical Memorandum |
| 2017 | EPA issues the Human Health Risk Evaluation of 2011-2012 Fish Collection Data – Palos Verdes Shelf Technical Memorandum |
| 2017 | EPA issues the USGS Final Synthesis Report for Factors Controlling DDE Dechlorination Rates on the Palos Verdes Shelf: A Field and Laboratory Investigation. |
| 2018 | **EPA Issues the First Monitored Natural Recovery (MNR) Study, indicating degradation of DDTs and PCBs in sediments on the ocean floor of the PV Shelf site area, thus significantly altering our estimates of the mass of contaminated sediment, prompting EPA to initiate efforts to conduct in new FS in support of the final remedy.** |
| 2019 | EPA issues the Second Five Year Review Report |
| December 2020 | **EPA expected to award contract for development of a new FS to support the selection of a final remedy for PV Shelf. The FS will update our understanding of the relationship between sediment and fish contamination, update the human health and ecological risk assessments, and reevaluate cleanup alternatives using data collected since the 2009 IROD.** |
| 2024 | **FS expected to be complete** |
| 2026 | **Final ROD expected to be signed** |